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NOTES ON A COLLECTION OF BIRDS MADE IN THE ANDAMAN ISLANDS BY ASSISTANT SURGEON G. E. DOBSON, M. B., DURING THE MONTHS OF APRIL AND MAY,—by V. BALL, Esq., B. A.

[Read 6th, received 16th August, 1872.]

A short time ago Dr. Anderson placed in my hands for determination a collection of birds, made in the Andamans by Dr. Dobson,* subsequently adding two received from Mr. Homfray.

The collection contains 184 specimens belonging to sixty-two species, of which eighteen are new to the hitherto recorded avifauna of those Islands; but they are for the most part migratory birds (*Grallæ*), whose occurrence might safely have been predicated from their being known from the coasts on both sides of the Bay of Bengal, and to some extent from Malayana.

One species only is described in the following list as new, but there are four others presenting certain peculiarities which may hereafter justify their separation from the species under which they are now enumerated. As these are represented by single specimens, I think it undesirable to exaggerate the importance of what may ultimately prove to be only individual variations from the type. The species are: *Ephialtes spilocephalus*, Blyth?; *Palæornis Alexandri*, Linn.; *Brachypodius melanocephalus*, Gmel.; *Rallus striatus*, Linn. One result of the examination of this collection has been that while it supports Col. Tytler's views as to the distinctness of certain Anda-

* Mr. Wood-Mason and Dr. Dobson visited the Andaman Islands to collect for the Indian Museum. The vertebrate portion of the collection was under Dr. Dobson's care.

man species, it furnishes almost conclusive evidence against others being so. Mr. Blyth has already pointed out that *Spilornis Elgini*, Tytler = *S. bacha*, Bodd.; *Collocalia affinis*, Tytler = *C. Linchi*, Horsf.; *Palæornis affinis*, Tytler = ♀ *P. erythrogenys*, Blyth, and *Herodias Andamnensis*, Tytler = *H. concolor*, Blyth.

In so far as the present collection afforded material, I have endeavoured to give full descriptions of those species which have hitherto only been partially described, and to amplify the information regarding others.

According to the present state of our knowledge, the avifauna of the Andamans includes 109 species; possibly this number may have to be reduced by four.* But it is made up in this way. The late Capt. Beavan's list gives 94 species from which three, viz.—*Hæmatornis Cheela*, Bodd., *Palæornis affinis*, Tytler, and *Pericrocotus Andamanensis*, Tytler, must, I think, be subtracted, and 18, the number of additional species in the present collection, added, or $18 + 94 - 3 = 109$. It should be stated, however, that five of the species mentioned by Capt. Beavan were introduced into the Islands by Col. Tytler. The number of indigenous birds should therefore stand at $100 + 4$? Of this number twelve are local species and six? are known only from the Andamans and Nicobars.

In the Nicobars there are about fifty-three species known at present, of which number seven are local.

Excepting the migratory birds, particularly the *Grallæ*, from our consideration, the bulk of the non-local species in the Andamans are Indian, and in the Nicobars Malayan.

Where there are two allied species, or two races or varieties of a species in India, the Andaman, as a general rule, corresponds with the southern form. To this rule there is an exception in the case of *Graucalus Macei* which is the northern species, *G. Layardi* being the southern. However, the Andaman bird seems to be intermediate between *G. Macei* and *Javensis* from Java which two, according to Blyth, only differ in size.

Judging from the number of species of birds known to occur in the several groups of islands in the Malayan Archipelago we may feel confident that much yet remains to be done both in the Andamans and Nicobars, before a list approaching completeness can be prepared.

The present, and to a certain extent, all previous collections were made in the vicinity of Port Blair, throughout an area, probably not exceeding 30 or 35 square miles, or by a rough estimate about one-hundredth part of the total area occupied by these islands.

* The species of *Nectarinia*, *Ægialitis*, *Herodias* and *Querquedula* of Col. Tytler's and Capt. Beavan's lists may possibly be only the same species as four birds which are given under other names in my list.

Several families and genera, which all analogy would lead us to believe must find a place in the Andaman avifauna, are as yet unrepresented in any of the collections of which descriptions have been published.

The following is a list of the purely local species which are not known to occur elsewhere :

- Spizætus Andamanensis*, Tytler.
Muelleripicus Hodgii, Blyth.
Centropus Andamanensis, Tytler.
Graucalus Dobsoni, n. sp.
Dicrurus Andamanensis, Tytler.
Dissemurus affinis, Tytler.
Myiagra Tytleri, Beav.
Oreocinclæ infra-marginata, Blyth.
Oriolus Andamanensis, Tytler.
Kittacinclæ albiventris, Blyth.
Dendrocitta Boylei, Tytler.
Temnuchus Andamanensis, Tytler.
Euryzona Canningi, Tytler.

The species found in the Andamans and Nicobars, but not elsewhere, are :

- ? *Ninox affinis*, Tytler.*
Palaornis erythrogeus, Blyth.
Geocichla innotata, Blyth.
Eulabes Andamanensis, Tytler.
Treron chloroptera, Blyth.
Macropygia rufipennis, Blyth.

In the following enumeration and description a dagger (thus †) prefixed, indicates that the species has not been previously recorded from the Andamans.

Fam. AQUILINA.

1. *SPILORNIS BACHA*, Daud. *H. bido*, Horsf. No. 87 of Blyth's Catalogue, *S. spilogaster*. Blyth *Hæmatornis Elgini*, Tytler.

H. Elgini, Tytler, is considered to be identical with *H. bacha* by Mr. Gurney, and both Mr. Blyth and Dr. Jerdon confirm this opinion (Ibis, N. S. IV. 1868, p. 131 and 3rd Series, 1871, Vol. I, p. 335). Dr. Jerdon writes : " It appears fully agreed on by all that the small Serpent Eagle of Ceylon and Southern India is the same as the Andaman bird."

In my previous paper, from not having seen Mr. Blyth's remarks, I entered my specimens as *Cheela*, as they had the wing longer than in Tytler's *Elgini*. In the present collection, which contains five specimens in various stages of plumage, all belong to the small species. The variations in plumage correspond with those observable in the different stages of *Cheela*,

* I am rather inclined to believe that this bird will prove to be the same as Temminck's *Strix hirsuta* which Pelzeln records from the Nicobars.

I could not see any constant characters which would serve to distinguish the two species other than that of size. Measurements of a male in inches : wing 14·2 ; tail 9·2 ; bill to gape 1·8 ; tarsus 3·4.

2. HALLETUS LEUCOGASTER, Gmel.

Three specimens in various stages of plumage. Length of wing of adult 20·8 inches.

Fam. STRIGIDÆ.

3. EPHIALTES SPILOCEPHALUS, Blyth. (?)

So far as it is possible to make out one of these difficult birds without a good series for comparison, the specimen of Andaman scops before me appears to correspond most nearly with Blyth's description of *E. spilocephalus* (= *S. Malayanus*, Hay ?) J. A. S. B. XV. p. 8, and with a specimen of that species from Masuri in the old collection, No. 147, I, of Blyth's Cat.

Mr. Hume only doubtfully refers *spilocephalus*, Blyth, to *gymnopodus*, Gray, so that for the present I think it safer to give Blyth's name. The bird certainly belongs to the *pennatus* type as distinguished by Mr. Hume, though Col. Tytler records *E. Lempigi* from the Andamans.

Authorities are so divided as to the nomenclature to be adopted in reference to this genus, that without attempting to discuss the question as to what species *spilocephalus* should be finally referred to, I shall confine myself to shewing the points of resemblance between the Andaman bird and *spilocephalus*, Blyth, by the description of the former which is as follows :

Above. Rufous inclining to bay, each feather of the head, back of neck, scapulars, wing coverts, back and rump with two fawn colored spots edged with black. Primaries—first two not grown, fourth and fifth equal, five white spots on the outer webs. Tail rufous brown, darker on the inner webs of the rectrices, with four white bands.

Beneath. Facial disk fawn colour. Loral bristles black, white towards the base. Breast and abdomen finely mottled with brown and fawn or dusky white, each feather with two brownish black spots which are separated by a white bar. Tarsi covered for three-fourths of their length with short rufous colored feathers, barred with brown. Feet and claws not quite so slender as in the Masuri specimen.

Measurement in inches : wing 5·6 ; tail 3 ; tarsus 1.

Fam. HIRUNDINIDÆ.

4. COLLOCALIA LINCHI, Horsf. *Hirundo fuciphaga*, Thun.

Trans. Linn. Soc. XIII, p. 143, *C. Linchi* et *C. fuciphaga*, Wallace, P. Z. S. 1863, p. 384. *C. affinis*, Tytler ?

The present collection contains three specimens of *Collocalia* which appear to have been taken from the nest as the primaries are not fully grown.

They correspond in length of body and coloration with specimens of *C. fuciphaga* from Batavia and the Nicobars (Blyth's Cat. No. 429). They appear also to be the same species as that figured as *C. Linchi* in 'Reise der Novara,' Vögel, T. II, f. 2, save that the metallic lustre as represented is far too brilliant. The following is a description of our specimens.

Above. Black with dark green reflections, an indistinct white band on the rump, no spots on the tail. *Underneath.* A white rictal spot; from chin to breast cinereous, the edges of the feathers lighter, thence to vent greyish-white, feathers centered cinereous; under tail-coverts centered greenish-black. Length to end of tail 3·3, wing 2·95, tail 1·4 inches.

Col. Tytler's specimens from the Andamans, which he described as *C. affinis*, had the following dimensions:—

	Length.		Wing.		Tail.	
♂	3·75	inch.	3·52	inch.	1·36	inch.
♀	3·5	„	3·75	„	1·36	„

Fam. MEROPIDÆ.

5. MEROPS QUINTICOLOR, Vieil.

The collection contains six specimens of this bird.

Fam. CORACIADÆ.

† 6. EURYSTOMUS ORIENTALIS, Linn.

Three specimens. Is said to be common, but has not been previously recorded from the Andamans.

Fam. ALCEDINIDÆ.

7. ALCEDO ASIATICA, Swains. (*A. meningting*, Horsf.) Two specimens.

8. PELARGOPSIS BURMANICA, Sharpe. *Halcyon Gurial*, Pearson.

In this list I follow Mr. Sharpe's classification and geographical distribution of the five races of *Halcyon leucocephalus*, at the same time I feel strongly inclined to believe that a critical examination of the whole series at present in the Indian Museum will shew that it cannot stand in its integrity.

Our present specimen closely resembles some of the duller plumaged individuals of *H. Gurial* from Bengal, and also agrees to a certain extent with Sharpe's description of *Burmanica*, but differs from the figure given of that race in the following particulars: the feathers of the head and nape are much more albescent, the ochreous collar is broader and the blue of the wings and tail has no tinge of greenish. Length 13·2; wing 6, tail 4·4, bill at front 3, tarsus 6 inches.

9. HALCYON COROMANDA, Lath. Two specimens.

10. HALCYON SMYRNENSIS, Linn.

This resembles specimens from Southern India and Ceylon in the brilliancy of the coloration. Length 10·8, wing 5, bill at front 2·4 inches.

11. HALCYON CHLORIS, Bodd. Sharpe, Monograph of *Alcedinidæ*, p. 229. *Todiramphus collaris*, Scop.

The collection contains several specimens of this bird which is said to be one of the commonest on the Islands.

Fam. PSITTACIDÆ.

12. PALÆORNIS ALEXANDRI, Linn.?

While aware of the considerable amount of variation which *Palæornis Alexandri* is subject to, I should be disposed to claim for the Andaman bird now before me a position as a distinct species, were I able to affirm that the characters which it exhibits are constant; but on this point I have no information at present. The specimen, a male, at once attracted notice by the enormous size of its bill; and on closer examination and comparison with a good series of Indian specimens, I found that it possesses other characters which distinguish it from the Indian bird of normal plumage.

The black stripe from the lower mandible to the demicollar of peach-rose, so marked in ordinary specimens, is in this reduced to a narrow line which commences half an inch from the mandible and terminates at the first point of contact with the peach-rose, not being continued as a border to it, as it commonly is for three-fourths of an inch or so in Indian specimens. The head and cheeks, down to the collar, are of a vivid emerald green without a trace of the purplish grey or hoary bloom which is present in all Indian birds which I have examined. The dark red spot on the shoulders is smaller than usual? and the blue of the central tail feathers of a much more decided hue. The wing is somewhat shorter than in any of the Indian specimens with which I have compared it.

Dimensions of bill.	Gape to point.		Width at gape.	
	A.	B.	A.	B.
Up. mandible,	1·15 inch.	1·15 inch.	·95 inch.	·85 inch.
Lr. mandible,	·75 "	·65 "	·9 "	·8 "
Depth of both mandibles closed A. 1·7, B. 1·5.				

A is the Andaman bird, B a specimen of ordinary dimensions from the Rajmahal Hills. Should all the Andaman birds prove to have the above characters I would propose the name *P. magnirostris* for the species.

If the characters be constant, they are as sufficient to distinguish the two races as are those which distinguish the two races of *P. rosa*. I may perhaps mention that in looking through a drawer full of these latter, I found

that Cachar and Darjiling (? Terai) specimens agreed with Barmese in having the under wing coverts green, &c.

13. *PALEORNIS ERYTHROGENYS*, Blyth.

J. A. S. B., XV, 1846, p. 23, and XXVII, 1856, p. 81. *P. Nicobaricus*, Gould, P. Z. S. p. 555. B. of Asia, 1857, Pt. IX.

Mr. Blyth (Ibis, IV, 1868, p. 132,) has pointed out that although the name *erythrogenys* has been applied to three species of this genus, in the case of two it is reduced to the rank of a synonym, and therefore his name is entitled to stand.

In my former paper I agreed with Blyth in considering Tytler's *P. affinis* to be only the female of this species. If it be not, then we might ask what is the female like? neither the present nor any previous collection contains any specimen of the red-billed birds which do not correspond exactly with authentic males.

There is one point about the female not noticed by Blyth, the moustache is deep green, not black as in the males.

	Measurements in inches.			
	Length.	Wing.	Bill from gape.	Tarsus.
♂	14	6·8	·85	·55
♀	10·7	6·8	·76	·55

† 14. *PALEORNIS JAVANICUS*, Osbeck.

Blyth writes "*P. Javanicus* differs only from *P. Fibrisca*, in the Javan bird having a red lower mandible, while the other has a black one; but in some Javan specimens the lower mandible is blackish and Mr. Gould has a specimen from Siam with a red under mandible; the Hainan birds have it black." Finsch in his Monograph '*die Papageien*' includes both under *P. Lathamii*, Finsch.

The specimen in the present collection, a male, has the under mandible black. Length 13; wing 6·8; tail 7·8; tarsus ·6 inches.

15. *LORICULUS VERNALIS*, Sparrm.

Identical with Indian specimens, wing 3·5 inches.

Fam. PICIDÆ.

16. *MUELLERIPICUS HODGII*, Blyth.

The collection contains a good series of this bird which appears to be common. The measurements of one are somewhat different from those of my own specimen (J. A. S. B., XXXIX, p. 241): wing 6·8; tail 6·2; bill at front 1·6; tarsus 1·2 inches.

17. *PICUS ANDAMANENSIS*, Blyth.

Blyth distinguishes this bird from *P. pectoralis* by its having three pair of distinct white spots on the middle rectrices, while *P. pectoralis* has four. "But the Andaman bird is specially characterized by the large

round black spots upon its breast, each margined with whitish; the ear coverts also are longitudinally more conspicuously rayed than in the others. In other respects this bird resembles *P. macci*."

The present collection which contains five specimens shews that the number of spots on the middle tail feathers is not a constant. In three (2 ♂ and 1 ♀) there are four pairs of spots and in the remaining two (1 ♂ and 1 ♀) there are only three.

♀ Length 6·25; wing 3·87; tail 2·25; tarsus ·75 inches.

Mr. Blyth has seen this bird in a collection from Sumatra.

Fam. CUCULIDÆ.

† 18. *CUCULUS MICROPTERUS*, Gould.

One specimen. This bird has not been previously brought from the Andamans.

19. *CENTROPUS ANDAMANENSIS*, Tytler. *Ibis*, N. S. III, 1867, p. 321.

The collection contains four specimens. Head, neck to middle of back, chin, throat and breast rufous grey. Abdomen, thigh-coverts and under tail coverts the same with an ashy tinge. Back, rump and upper tail-coverts ashy. Wings and scapulars rufous bay. Tail brown, paling from the centre to the margins of the feathers. Bill black. Length 17 to 18; wing 7·5; bill at gape 1·7; tarsus 1·9 inches.

Fam. NECTARINIDÆ.

† 20. *ARACHNECHTHRA FRENATA*, Müll.?

The specimens of *Arachnechthra* hitherto received from the Andamans have been identified as *pectoralis*, and following suit in my previous paper on Andaman birds I stated that species to be "common on Mount Harriet." The birds in the present collection are distinguished from *pectoralis* by wanting the slightest trace of a metallic blue frontal patch. With the characters of *A. frenata*, Müll., given by Lord Walden in the *Ibis* for 1870, p. 26, they agree and the wing exactly corresponds with that of Müller's figure; but there is no trace of a maroon pectoral band represented, which though slight, is present in all our ♂ specimens. The yellow supercilium is distinctly marked. Another character which distinguishes this from *pectoralis*, and helps to separate it from several other species, is the size of the bill which closely approximates to that of *A. intermedia*, Hume.

Length 4·2; wing 2·1; bill at front ·8, tail 1·4 inches.

Fam. LANIADÆ.

21. *LANIUS LUCIONENSIS*, Scop.

A specimen of this bird is identical in coloration with one in the Indian Museum from Mr. Swinhoe, Amoy. It differs from the ordinary Indian

specimens of *cristatus* in the silvery white of the forehead, chin, and throat, and in the almost entire absence above of any tinge of rufous except on the upper tail coverts. Length 7·1, wing 3·5, tarsus ·95, bill at front ·5 inches.

22. GRAUCALUS MACEI, Lin.

The collection contains five specimens of *Graucalus*, three of which answer very closely to the characters of *G. Macei* or *G. Javensis*, being indeed of intermediate size and thus affording a link between the Indian and Javan birds which, according to Blyth, only differ in size. They have the wings white underneath, and the outer tail feathers broadly tipped with white. One specimen has the abdomen slightly barred, in the others it is simply albescent.

Length.	Wing.	Tail.	Bill from gape.	Tarsus.
11 inch.	6·62 inch.	5 inch.	1·58 inch.	1·1 inch.
11·1 „	6·75 „	5·12 „	1·5 „	1 „

The remaining two specimens I at first thought might be the young of the above; but closer examination convinced me that they are adults in full plumage belonging to a distinct species.

† 23. GRAUCALUS DOBSONI, n. sp.

So far as the literature available in Calcutta has enabled me to compare this bird with the hitherto described species of this genus it appears to be distinct. I at first supposed it might be *striata*, Bodd. = *Novæ-guinææ*, Gmel. &c., but it differs in several particulars from Lesson's description of that species. The following is a description.

Above dark slatey, darkest on the head; wings and tail brownish-black, primaries, secondaries and tertiaries lighter on the inner webs, faintly edged with white on the outer; two outer rectrices on each side narrowly tipped with dusky white; a black stripe from the lores round the eyes to the ear coverts, thence faintly continued as a collar in one of the specimens. *Underneath* white barred with black from chin to under tail-coverts inclusive; under wing-coverts similarly barred. Bill conspicuously smaller than in *G. Macei*. Length, 10·2, wing, 6·2, tail, 5·4, bill from gape, 1·23, tarsus, ·95 inch.

I have named the species after Dr. Dobson.

24. PERICROCOTUS SPECIOSUS, Lath.—Gould, B. of Asia, pt. IX, pl. 4.

A good series of this bird has been brought. It includes several young males with the transitional plumage. I have little doubt that *P. Andamanensis*, Tytler, is only *P. speciosus* in immature plumage. It is said to have "the plumage of *P. speciosus* with more yellow or flame-colour mingled with the scarlet. It is also apparently smaller." The amount of red on the central tail feathers of this bird varies much in specimens from various parts of India and Borneo. Four out of five males in this collection have the central tail feathers wholly black.

I have shot in Bengal and examined from other parts of India many specimens of *P. speciosus*, none approach in size Gould's figures which are said to be *life*.

25. PERICROCOTUS PEREGRINUS, Linn.

Andaman specimens correspond with the darker plumaged variety of this bird from Madras and Ceylon, from one of which Gould's figure is taken.

I have not seen any description of *P. flagrans*, Boie apud Bonaparte, from Borneo and Sumatra, possibly the southern form should be referred to that species.

26. BUCHANGA (DICRURUS) ANDAMANENSIS, Tytler.

This is, I believe, a good species, somewhat resembling *D. baticassius*,* but distinguished from that species by its large sharply keeled bill and hair-like feathers, which spring from the nostril. The bill is more like that of a *Dissemurus* than a *Dicrurus*; so much is this the case that in a former paper J. A. S. B., XXXIX, pt. II, p. 241, I was inclined to refer a very young bird of this species with the tail feathers only partly grown to the former rather than to the latter genus. I have compared it with all the specimens mentioned in Blyth's Catalogue including *edoliformis*, but it is certainly distinct from any of them.

Above and below black, with a greenish metallic gloss; primaries brown, fourth and fifth longest and equal, outer tail feathers with a slight curl upwards, under wing-coverts spotted with white lunules; no rictal spot.

Length.	Wing.	Tail.	Bill to gape.	Tarsus.
11 6	5·5	6·75	1·25	·87 inch.
10·5	5·25	6·	1·25	·87 „
11·	5·2	6·3	1·25	·8 „

27. DISSEMURUS (EDOLIUS) AFFINIS, Tytler et Beavan.

The late Capt. Beavan, (*Ibis*, N. S. III, p. 323) discussed the reasons which led him to the conclusion that the Andaman bird is distinct; since that time much has been written on the subject, but the nomenclature of the species is far from being in a satisfactory state. To start with, it is uncertain whether the three following species should be regarded as really belonging to three, two or one: *E. Rangoonensis*, Gould, *E. Malayensis*, Blyth, *E. setifer*, Temm.

Dr. Jerdon (*B. of I.* Vol. I, p. 438,) and Mr. Gray (*Hand list*, p. 287), maintain that *Malayensis* and *setifer* are identical; but Lord Walden (*Ibis*, 3rd Series, I. p. 174), states that the Javan *E. setifer* is distinct from *Malayensis*, and asks whether the latter is distinct from *Rangoonensis*? calling it the Barmese species. Mr. Blyth has stated (*B. of I.* Vol. I, p. 438), that *Rangoonensis* is not from Barma but from the Philippines, and so far

* *D. baticassius*, Linn., was obtained at sea near the Nicobars, according to Blyth.

as I can see there is no authentic case of a non-crested specimen having been obtained in Barma. There are certainly none in the Indian Museum. Several specimens collected by Dr. Williams and now in that collection are well crested and should be ranked as *paradiseus* according to Jerdon's classification. From *D. Rangoonensis*, as described by Gould, P. Z. S. 1836, the Andaman bird is distinguished by its larger bill and longer wing, if not by other characters; from *D. Malayensis* (= *setifer*?) as represented in the Indian Museum (As. Socy. Coll.) by its very much larger size. Other doubtful species of non-crested *Dissemuri* are *D. brachyphorus*, Temm., apud Bonap., and *D. singularis*, Gray.

In the present Andaman collection there are three specimens which have only a very slight trace of frontal crest, their measurements are:

	Length to end of ordinary tail.	Wing.	Bill from gape.	Tail.	Outer T. feathers.	Tarsus.
Sex ?	12 inch.	6.2 inch.	1.45	inch. 6.2 inch.		1 inch.
♂	12	6.4	1.5	6.5	15. inch.	1.1
Sex ?	13.3	6.5	1.5	7	17.	1.1

28. *ARTAMUS LEUCOPYGIALIS*, Gould, P. Z. S. Lon. 1842, p. 17.

Lord Walden, P. Z. S. 1866, p. 555, has identified the Andaman bird with Gould's Australian species. I have compared with it Gould's plate and can see no difference in the plumage, but the bill of the Andaman bird seems larger.

Fam. MUSCICAPIDÆ.

29. *MYIAGRA TYTLERI*, Beav.

Both Mr. Blyth (*Ibis*, 1868, p. 132) and Dr. Jerdon (*ibid.* 1872, p. 122) doubt the distinctness of the Andaman bird from the widely distributed *M. azurea*, Bodd.; but chiefly, I, believe on the ground of that wide distribution. With the specimens, 2 ♂ and 2 ♀, now before me, and not having been able to discover, in the Indian Museum, any specimens, or any published description of Indian birds shewing the same departure from the typical coloration, I am inclined to follow Capt. Beavan in his determination of the Andaman bird as distinct.

M. Tytleri, Beav., is said to "differ conspicuously in entirely wanting the black gorget on the throat of the male." (*Ibis*, N. S. III, 1867, p. 324). This character as suggested by an editorial footnote is only an individual peculiarity. In the two males before me, the gorgets are distinctly marked; but the other specific characters, the brighter coloration of the upper parts and the continuation of the blue of the breast to the abdomen which becomes slightly paler towards the vent, serve to distinguish this bird, if not as a species, at least as a well marked variety of *M. azurea*. The under tail coverts are white with a sky-blue tinge. The female like the male has no white on the abdomen; wings and tail brown.

	Measurements in inches.			
	Wing.	Tail.	Bill.	Tarsus.
♂	2·9	2·7	·45	·65
♀	2·8	2·7	·45	·65

Fam. MERULIDÆ.

30. *GEOCICHLA INNOTATA*, Blyth.

One specimen. Length 7·2; wing 3·5; bill at front ·7; tarsus 1·1—
inches.

Fam. BRACHYPODIDÆ.

31. *OTOCOMPSA JOCOSA*, Linn.

The Andaman appears to be identical with the Indian species.

† 32. *BRACHYPODIUS MELANOCEPHALUS*, Gmel. ?

One specimen in immature plumage may belong to this species. The metallic feathers of the head have not appeared. The outer edges of the primaries are yellowish green.

33. *IRENA PUELLA*, Lath. Vide Ann. and Mag. Nat. Hist. 4 Ser. Vol. V, 1870, p. 417.

The Andaman species of *Irena* corresponds with that found in Southern India (Travancore). It has the short tail coverts which, according to Lord Walden, distinguish *Irena puella* from *I. cyanea* and *I. turcosa*. The collection contains males, females, and young males in transitional plumage.

	Wing.	Tail.	Bill at front.	Tarsus.
♂	5 inches.	4	inches. ·9	inches. ·75
♀	5	4	inches. ·9	inches. ·75
Young ♂	4·9	4	inches. ·8	inches. ·7

34. *ORIOULUS MELANOCEPHALUS*, Linn. One specimen.

35. *ORIOULUS ANDAMANENSIS*, Tytler.

In his last published remarks on this species (Ibis, IV, 1868, p. 132) Mr. Blyth states his belief that the Andaman Oriole is distinct from *Horsfieldi*, Bonap.; previously having relinquished his original supposition as to its identity with *coronatus*, Swainson. He considers it to be "most nearly akin to *O. macrurus* of the Nicobars, but is rather smaller." It is distinguished from *O. macrurus* not only in size but in the amount and distribution of the yellow on the wings and tail and black on the head. From *Chinensis*, it may readily be distinguished by the black on the nape being much narrower, *Indicus* having it of intermediate size.

A specimen in full adult plumage, has the wings black save the extremities of secondaries and tertiaries which are narrowly tipped with yellow, and a bar formed of yellow tips to the wing-coverts of the primaries.

The collection contains three specimens, and there are six in the old collection which were described by Blyth. Dimensions of one; length 8·8; wing 5·3; bill at front 1; tarsus ·9; tail 3·35 inches.

Fam. SYLVIADÆ.

36. *COPSYCHUS SAULARIS*, Linn.

Three specimens belonging to the Indian, not the Malaccan species (*C. Mindanensis*). A fully grown male has the four outer rectrices on either side white, this is a character according to Blyth, which distinguishes *C. saularis* from both *Mindanensis* and *Ceylonensis*.

37. *KITTACINCLA ALBIVENTRIS*, Blyth. Three specimens.

Measurements of ♂ : length 7·8 ; wing 3·55 ; bill to gape ·87 ; tarsus 9·5 inches.

38. *ARUNDINAX OLIVACEUS*, Blyth, J. A. S. B. XIV, p. 595. *A. ædon Pallas?*

Three specimens of this not very well known bird. They correspond very closely with Blyth's original description and type specimens so far as the faded condition of the plumage of the latter admits of comparison. In dimensions, however, they are somewhat smaller :

	Length.	Wing.	Tail.	Bill at front.	Tarsus.
A.	6·6 inch.	3·07 inch.	3·1 inch.	·55 inch.	1·03 inch.
B.	„	3·13 „	3·2 „	·53 „	1·03 „

A, is the Andaman bird ; B, a bird in the Museum labelled by Blyth. The measurements of both are less than those given in Blyth's original description and in the "Birds of India," II, p. 157. Another of Blyth's specimens on the same stand is larger than B, and more nearly corresponds with the published measurements.

Fam. CORVIDÆ.

39. *DENDROCITTA BAYLEI*, Tytler, Ibis 1863, p. 119.

A good series of this bird.

	Measurements in inches.				
	Length.	Wing.	Tail.	Bill to gape.	Tarsus.
♂	12·2	4·6	7·2	1·	1 inch.
Sex ?	11·8	4·6	7·	1·1	1 „

In my previous paper J. A. S. B. XXXIX, p. 242, "wing 2 $\frac{3}{4}$," "was misprinted for 4 $\frac{1}{4}$."

Fam. STURNIDÆ.

40. *CALORNIS PANAYENSIS*, Scop. = *C. cantor*, Gm. Vide Ibis, 3rd Series, Vol. I, 1871, p. 176.

The Andaman specimens (five), including both young and adults, appear to be identical with the Indian species.

41. *TEMENUCHUS ANDAMANENSIS*, Tytler.

The specimens in this collection (both ♂ and ♀) go far to establish Tytler's opinion as to the distinctness of the Andaman bird from *T. erythropygia*, Blyth, from the Nicobars. None of them shew the slightest tendency

to rufescence on the rump, upper tail coverts, under tail-coverts or tail feathers, as is so distinctly marked in the Nicobar birds.

I observe too, though I doubt its being a constant character, that the bill of the Nicobar bird is somewhat more slender and less conical than in the Andaman specimens.

♂ Wing 4·3; tail 3·2; bill at front 1·1; tarsus 1 inch.

42. *EULABES ANDAMANENSIS*, Tytler.

In my previous paper I simply confined myself to pointing out that the Andaman and Nicobar birds are identical, feeling that without a larger series for comparison, and in the state of opinion on the subject of the different races of *Eulabes*, my safest course was, to follow Lord Walden, who has pronounced the Andaman bird to be a distinct and good species. Since that time, Dr. Stoliczka has discussed the subject at length (J. A. S. B. XXXIX, pt. II, p. 326) and has been replied to by Lord Walden (Ibis, 3rd Series, Vol. I, p. 177). Dr. Stoliczka believes the Nepal, Arracan, Andaman, Nicobar, Wellesley province and Malacca birds to be "geographical races of the same species" viz., *E. Javanensis*, Osbeck.

Lord Walden maintains not only the distinctness of *intermedia* and *Andamanensis*; but from recent examination of specimens from Malacca questions their identity with the true *Javanensis* from Java.

I have before me two specimens from a dealer's collection from "the Straits" which I take to belong to the large Malacca species generally known as *Javanensis*. In these the bill is well curved and high; the naked space below the eye is quite disconnected with the wattles.

The Andaman and Nicobar specimens are smaller and have the bill lower and straighter. The bare patch underneath the eye is *not* absolutely disconnected from the wattles. So far as I can see the colour of the bill and the size of the lappets are extremely variable in specimens from the same locality. In my Nicobar specimen, the commencement of the wattles behind the eye is broader than in either of the Andamanese, but in other respects, the size and shape of the bill, feet &c., there is no perceptible difference.

Measurements in inches of a specimen in Dr. Dobson's collection.

Wing 6·3; tail 3·25; bill from gape 1·5; tarsus 1·4.

Fam. FRINGILIDÆ.

43. *MUNIA LEUCONOTA*, Tem.

Two specimens. Feathers not striated.

Fam. TRERONIDÆ.

44. *OSMOTRERON CHLOROPTERA*, Blyth.

This bird is said to be common, the collection contains only one specimen however. There are grave suspicions that the bird-skinner made the

discovery,—and acted upon it pretty frequently—that like other green pigeons, it is very good eating. Measurement in inches: wing 6·35, bill at front ·65, tail 4·25, tarsus ·85.

45. *CARPOPHAGA SYLVATICA*, Tickell.

The identity of Andaman with Indian specimens of this bird has been fully established. The collection contains three specimens.

Fam. COLUMBIDÆ.

46. *TURTUR HUMILIS*, Temm.

One specimen. The upper parts are of a rather deeper tint than in most Indian specimens.

47. *MACROPYGIA RUFIPENNIS*, Blyth, J. A. S. B. XV, p. 371.

Three specimens, two of which, marked ♂, have the rufous of the neck, upper part of the back, breast and abdomen barred with dark brown slightly undulating lines, which are close and distinct to the breast; thence to the vent they are wider apart, broken and fainter.

In a fourth specimen which is somewhat smaller, and may be either a young bird or the female, the bars are confined to the back of the neck, and the rufous of the wing coverts, edges of the wings, throat and abdomen is of a deeper tint approaching to bay.

Mr. Blyth in his original description has pointed out the characters which distinguish this species,—the smaller size, and rufous underneath the wings—from *M. phasianella*, Gould.

The following are the dimensions of a male: length 14·15; wing 7·5; bill at front ·6; tarsus ·9 inch.

Fam. GOURIDÆ.

48. *CHALCOPHAPS INDICUS*, Linn.

Three specimens. Mr Blyth observes (*Ibis*, N. S. IV, 1868, p. 133): “I could perceive no difference between Andaman specimens and those from India and Barma, whereas the Nicobar race accords with the description of *C. augusta*, Bp. [*Comptes rendus*, 1855].”

Fam. GLAREOLIDÆ.

† 49. *GLAREOLA ORIENTALIS*, Leach.

The collection contains two specimens which correspond exactly with specimens in the Indian Museum from the vicinity of Calcutta (Blyth's Catalogue, No. 1543).

Fam. CHARADRIDÆ.

† 50. *CHARADRIUS LONGIPES*, Temm.

Two specimens shot in May. In one the black of the summer plumage is beginning to appear.

† 51. *ÆGIALITIS GEOFFROYI*, Wagler.

Two specimens shot in May, have the winter plumage as described and figured by Mr. J. E. Harting (*Ibis*, 1870, p. 379):

Length.	Wing.	Bill at front.	Tarsus.
8·3	5·4	1	1·4 inch.
8·1	5·3	1	1·4 „

Col. Tytler says that he only obtained a distant view of the bird which is enumerated in Beavan's list as *Æ. pyrrhothorax* (= *Æ. mongolicus* apud Harting), so that it is not improbable that it was this species which he saw. It may have been this species too, which I observed in the Nicobars.

† 52. *EUDROMIAS VEREDUS*, Gould, P. Z. S. 1848, p. 38, B. of Australia, VI, pl. 14. Harting, *Ibis*, 1870, p. 209.

Mr. Harting's paper loc. e. enables a specimen in winter plumage to be identified with certainty. Length 8·2; wing 6·4; bill ·9; tarsus 1·8; uncovered portion of tibia ·9 inches.

Fam. SCOLOPACIDÆ.53. *NUMENTUS PILEOPUS*, Linn.

One specimen in the collection. The bird is said to be common in the clearings and cultivated grounds. It is enumerated in Blyth's list of Andaman birds but not in Beavan's.

It was obtained in the Nicobars by the Novara expedition, and also by myself; J. A. S. B. XXXIX, pt. II, p. 33.

† 54. *ACTITIS GLAREOLA*, Gmel.† 55. *ACTITIS HYPOLEUCOS*, Linn.

One specimen of each of the above.

Fam. RALLIDÆ.56. *EURYZONA CANNINGI*, Tytler, *Ibis*, 1863, p. 119.

This collection contains one specimen of the above rail which was first described by Tytler and Blyth in the *Ibis*.

Mr. Wood Mason says the bird is rather common in the grass bordering creeks. The specimen was shot near Hopetown.

Measurement: wing 6·3; tail 3·3; bill at front 1·1; tarsus 2 inches.

† 57. *RALLUS STRIATUS*, Linn.?

This bird differs from *R. striatus*, as represented in the Indian Museum (Blyth's Catalogue, No. 1671), in its longer and more powerful bill and in the abrupt termination of the rufous of the head and back of the neck, which in ordinary specimens is continued for some distance along the sides of the bluish grey of the breast. In other respects it corresponds with the common Indian bird. Wing 5·15; bill at front 1·7; tarsus 1·55 inches.

Should specimens obtained hereafter show that the above characters are constant, it may be then determined whether the Andaman bird must be regarded as belonging to a distinct race.

The present specimen was received from Mr. Homfray.

Fam. ARDEIDE.

† 58. ARDEA PURPUREA, Linn.

Two specimens in immature plumage.

† 59. HERODIAS EGRETOIDES, Temm.

One specimen which differs slightly in measurements from those given by Jerdon: wing 11·2, bill at front 2·9, tarsus 4·4, middle claw 3·5 inches. The bill is yellow with a brown tip to the upper mandible.

Col. Tytler mentions having identified *H. garzetta* in the Andamans.

60. HERODIAS CONCOLOR, Blyth. *H. Andamanensis* Tytler.

Col. Tytler (*Ibis*, N. S., III, 1867, p. 333) proposed for the Andaman bird a new name in consequence of "the young being black *ab ovo*, whereas those of the species for which it has been mistaken are white;" to which Mr. Blyth replied (*Ibis*, N. S., IV, 183) "*H. Andamanensis* is decidedly identical with *H. concolor* of which I never saw a white example. It also inhabits the Nicobars and Arakan."

I have carefully compared all the specimens available from the three localities and the only difference which I can discern, is that the Andaman birds are on the whole a little smaller, but one of the Nicobar birds is about the same size as the largest Andaman.

Measurements in inches.

	ARAKAN.	NICOBARS.			ANDAMANS.			
	1	2	3	4	5	6	7	8
		Rev. J. Barbe.	V. Ball, (J. A. S. B., xxxix, p. 32.)	Rev. J. Barbe.	Present Collection.	Col. Tytler.	Present Collection.	Col. Tytler, (Ibis).
Wing,	11·4	11·1	10·75	10·5	10·5	9·8	9·8	9·62—9·75
Bill at front,	3·4	3·3	3·5	3·	3·2	3·8	3·	3·
Tarsus,.....	3·	2·8	3·	2·8	2·7	2·4	2·6	2·25—2·37

The white on chin and throat exists in Nos. 2, 5, 6, 7 and 8? Nos. 1, 3 and 4 have no trace of it.

61. BUTORIDES JAVANICA, Horsf.

Two specimens are conspicuously smaller than any of a good series of Indian birds with which I have compared them; but correspond closely in coloration and other details of plumage. ♂ Wing 6·5; bill at front 2·4; tarsus 1·65 inches.

Fam. ANATIDÆ.

† 62. ♀ MARECA PUNCTATA, Cuv. Gould, Birds of Australia, vol. VII, pl. 11. *M. castanea*, Eyton.

What Col. Tytler's *Querquedula Andamanensis* may be I am unable to say, as it has not been described, and the original specimen appears to have been lost. *Prima facie* it is improbable that a local species of *Querquedula* exists in the islands. Be that as it may, the present collection contains specimens of what is commonly known as the 'teal' of the Andamans to the residents there. Except that they have a patch of white surrounding the eye and that the plumage of the head is somewhat darker, they correspond very closely with Gould's figure of *Mareca punctata*, Cuv. From his description it is evident that the plate exaggerates the bluish tinge of the velvet black speculum.

Two of the specimens shew an incipient stage towards the full breeding plumage of the male, scattered patches of bright ferruginous or chesnut appearing on the feathers of the breast and abdomen.

The occurrence of this species in the Andamans would be very interesting. It has previously only been found in Australia, Van Diemen's Land, the Moluccas and New Caledonia.

Note.—While the preceding pages were passing through the press the sad news of the death of Col. Tytler at Simla reached us. His name, so frequently mentioned above, will ever be inseparably connected with the avifauna of the Andaman Islands.